✦Roadmap
Invasive Species

EARTH SCIENCE RESEARCH	DECISION-SUPPORT INPUTS	GOALS/PARTNERS

State 2 Enhanced Invasive Species DSS (ISFS)

Soil surface moisture measurements products (HYDROS)

Invasive species spread as a function of soil fertility and vegitation processes

Next global land cover and change products

Capability to assess and predict patterns of species invasion and biodiversity for different land uses

Global atmospheric CO_2 from OCO and other sources

Capability to link biotic potential and diversity to carbon storage and flux

Forest height, perimeter, and canopy volume sampled globally; first global land cover change data product

Capability for assessment of complex structural habitats? (3-D vs. former 2-D capability); capability for terrestrial and aquatic prediction

North American carbon program and related international results incorporated into models (with C, climate) & ecosystem data assimilation; canopy structure from LIDAR

Continental assessments of native and exotic plant diversity; probable locations of rare habitats and potential areas for future invasion

Exploratory studies to map biological resources using existing satellite sensors; coupled atmospheric-terrestrial models

Regional assessments of native and exotic plant diversity; capability to discriminate between potential "hot spots" of native and exotic plant diversity

EOS and global land cover observations; carbon and climate model assimilation

Baseline information and dynamics of major terrestrial plant invasives

State 1 Prototype Invasive Species DSS (ISFS)

Enhanced Decision Support

Enhanced capabilities of operational and management agencies to detect and monitor biological invasions

NOAA USDA

USGS
science for a changing world

EARTH OBSERVING MISSIONS

TRMM | Landsat 5, 7 | Terra | Aqua | NPP | OCO | Aquarius | GPM | HYDROS | NPOESS

2003   2005   2007   2009   2011   2013

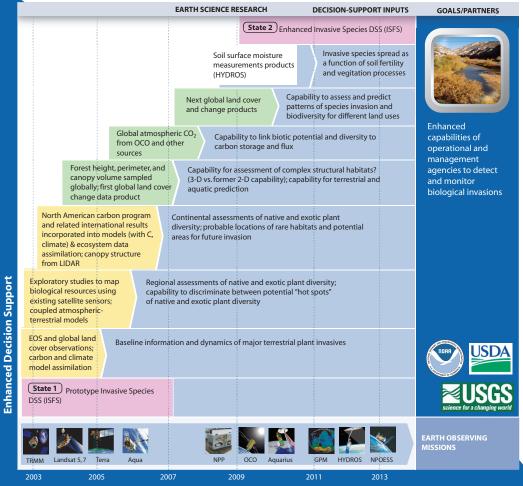| Where we are now	Where we plan to be
NASA observations and systems engineering integrated into USGS decision support tool, the Invasive Species Forecasting System (ISFS)	Terrestrial plant species capabilities of the ISFS supplemented with capacities for aquatic plant and animal species
ISFS using data from Terra, Aqua, Landsat 7 and SRTM missions to track, assess, and predict probable invasive species introduction points, disease outbreaks, potential rate of organism spread, potential success in alternative management activities, and impacts of mitigation efforts	Observations from additional NASA systems provide access to new geophysical parameters, improving near-term and long-term climate predictions and strengthening invasive species forecasting

2004 ———————————————————— 2012